

# PATENT SPECIFICATION

(11) 1347 531

1347 531

- (21) Application No. 16990/71 (22) Filed 25 May 1971  
 (31) Convention Application No. P 21 08 259.7  
 (32) Filed 20 Feb. 1971 in  
 (33) Germany (DT)  
 (44) Complete Specification published 20 Feb. 1974  
 (51) International Classification G11B 5/54 15/06  
 (52) Index at acceptance

G5R B180 B208 B264 B333 B345 B37Y B383 B38Y B421  
 B443 B451 B472 B58Y B591 B59Y B640 B642  
 B682 B752 B75Y B788



## (54) A MAGNETIC TAPE DEVICE

(71) We, SUD - ATLAS - WERKE GMBH, a German Company, of Kuglmüllerstrasse 10, 8000 München 19, Germany, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The invention relates to magnetic tape devices and more particularly to cassette recorders with a stationarily mounted playback and recording head and with an erasing unit provided with an erasing magnet.

One aim of the invention is to simplify the construction of cassette tape recorders by a suitable construction and arrangement of the erasing unit or head and to simplify the operation of the device.

The present invention consists in a magnetic tape device comprising a stationarily mounted playback and recording head, an erasing magnet unit with a hole perpendicular to the direction of tape travel, an erasing magnet mounted in the hole, means for sliding the magnet between an active tape engaging position and a reset position remote from the tape, conductors arranged on both sides of the hole for engaging the tape, and circuit means connecting the conductors with control means of the magnetic tape device.

In this manner a compact arrangement of the erasing magnet unit with its switching contacts, that is to say the conductors, is arrived at so that there is a compact form of device. The construction can be applied to miniature devices such as so-called pocket tape recorders. The movement of tape is automatically stopped when the conductors engage metallic strips at the ends of the tape. The conductors can also be connected with means for bringing about other operations, for example for producing switching pulses for operating independent devices.

The conductors can be metallic strips arranged on the periphery of the unit and can be connected with the circuitry of the device

via tags with eyes. In accordance with a preferred feature of the invention the electrical conductors are connected in circuit with a switching magnet whose switching contacts control the drive motor and the amplifier of the tape recorder for switching off.

The magnet for erasing can be caused to slide by any suitable means, for instance by means of a swinging lever which is connected with the magnet by means of a pin and slot connection. It is also possible to move the magnet by means of an eccentric pin which is arranged on a rotary part.

An embodiment of the invention is now described with reference to the accompanying drawing.

Figure 1 shows a magnetic tape device diagrammatically which is constructed in accordance with the invention, in plan view.

Figure 2 shows the erasing magnet unit from the front.

Figure 3 shows the erasing magnet unit in plan view in the active, erasing position.

Figure 4 shows the erasing magnet unit in the rest position.

The housing 1 of the tape device can be seen in figure 1. It has an opening for a loud-speaker 2 and also carries a conventional amplifier and drive mechanism for the magnetic tape 5 arranged in the magnetic tape cassette 3 and carried on spools 4 and 4'. The tape cassette 3 is carried in a recess 6 of the housing. The magnetic tape 5 is engaged by a playback and recording head 7 and by an erasing magnet unit 8. As can be seen furthermore from figures 2 to 4 the erasing magnet unit or head 8 is constructed as a unit which is fixed to the housing, that is to say it cannot be moved, and has a hole 9, perpendicular to the tape, in which the erasing magnet 10 slides. Sliding movements of the magnet are brought about by means of a pin 11 fitting into a slot 12 of a lever pivoted at 13'. The lever can be actuated via a pin 14' via a linkage 14 by an operating wheel 14'' mounted on the hous-

[Price 25p]

ing 1. By moving the linkage 14 the erasing magnet 10 can be moved out of the tape engaging position shown in figure 3 into the rest position shown in figure 4, and back again.

5 The erasing magnet unit 8 has mounted on its periphery two strip-like electrical conductors 15 and 16 which extend almost as far as the edges of the hole 9 and are connected with the circuit of the magnetic tape device via connecting wires 15' and 16'. The conductors 15 and 16 are so constructed and arranged that they engage the magnetic tape 10 5 as the latter moves past the erasing magnet unit. The conductors 15 and 16 form a pair of contacts which are connected together by means of the metallic strips 17 arranged at the ends of the tape and produce a switching effect. It can be seen that in the case of the arrangement of the strips 17 at the ends of the tape there will be an automatic switching off of the drive motor and the amplifier when the end of the tape is reached. The arrangement of the conductors 15 and 16 20 adjacent to the erasing magnet furthermore brings about the advantage that automatic switching off can occur both in the case of erasing operations and also in the case of playback and recording, in which the erasing magnet 10 is in the rest position as shown in figure 4.

stationarily mounted playback and recording head, an erasing magnet unit, with a hole 35 perpendicular to the direction of tape travel, an erasing magnet mounted in the hole, means for sliding the magnet between an active tape engaging position and a rest position remote from the tape, conductors arranged on both 40 sides of the hole for engaging the tape, and circuit means connecting the conductors with control means of the magnetic tape device.

2. A magnetic tape device in accordance with claim 1, in which the conductors are in the form of strips mounted on a peripheral 45 face of the erasing magnet unit.

3. A magnetic tape device in accordance with claim 1, comprising circuit means connecting the conductors with the switching magnet for switching off a drive motor and an amplifier of the magnetic tape device. 50

4. A magnetic tape device in accordance with claim 1, comprising a pin and slot connection and a pivoting lever which is connected 55 by this pin and slot connection with the magnet.

5. A magnetic tape device in accordance with claim 1, comprising an eccentrically mounted pin and a rotary member carrying it for moving the magnet in the hole. 60

6. A magnetic tape device in accordance with claim 1, substantially as described above with reference to and as illustrated in the accompanying drawing. 65

#### WHAT WE CLAIM IS:—

1. A magnetic tape device comprising a

POTTS, KERR & CO.

Printed for Her Majesty's Stationery Office, by the Courier Press, Leamington Spa, 1974.  
Published by The Patent Office, 25 Southampton Buildings, London, WC2A 1AY, from which copies may be obtained.

FIG.1

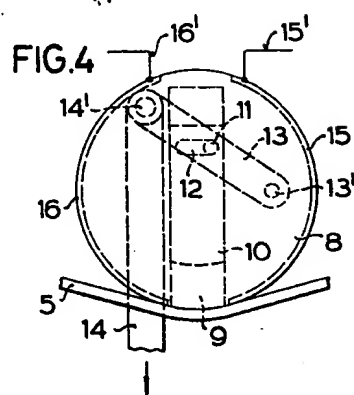
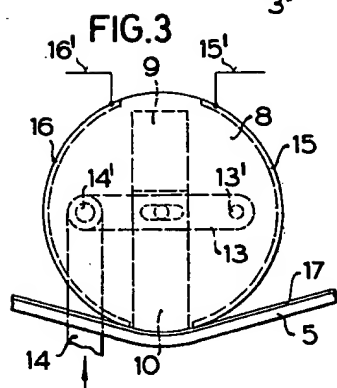
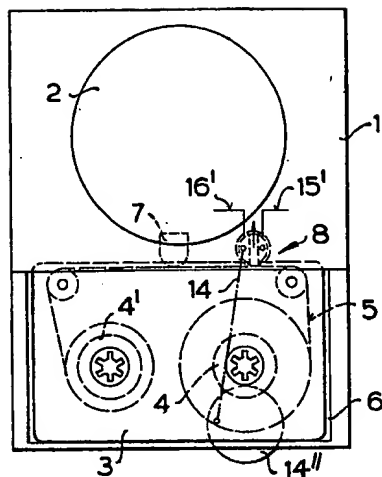


FIG.2

